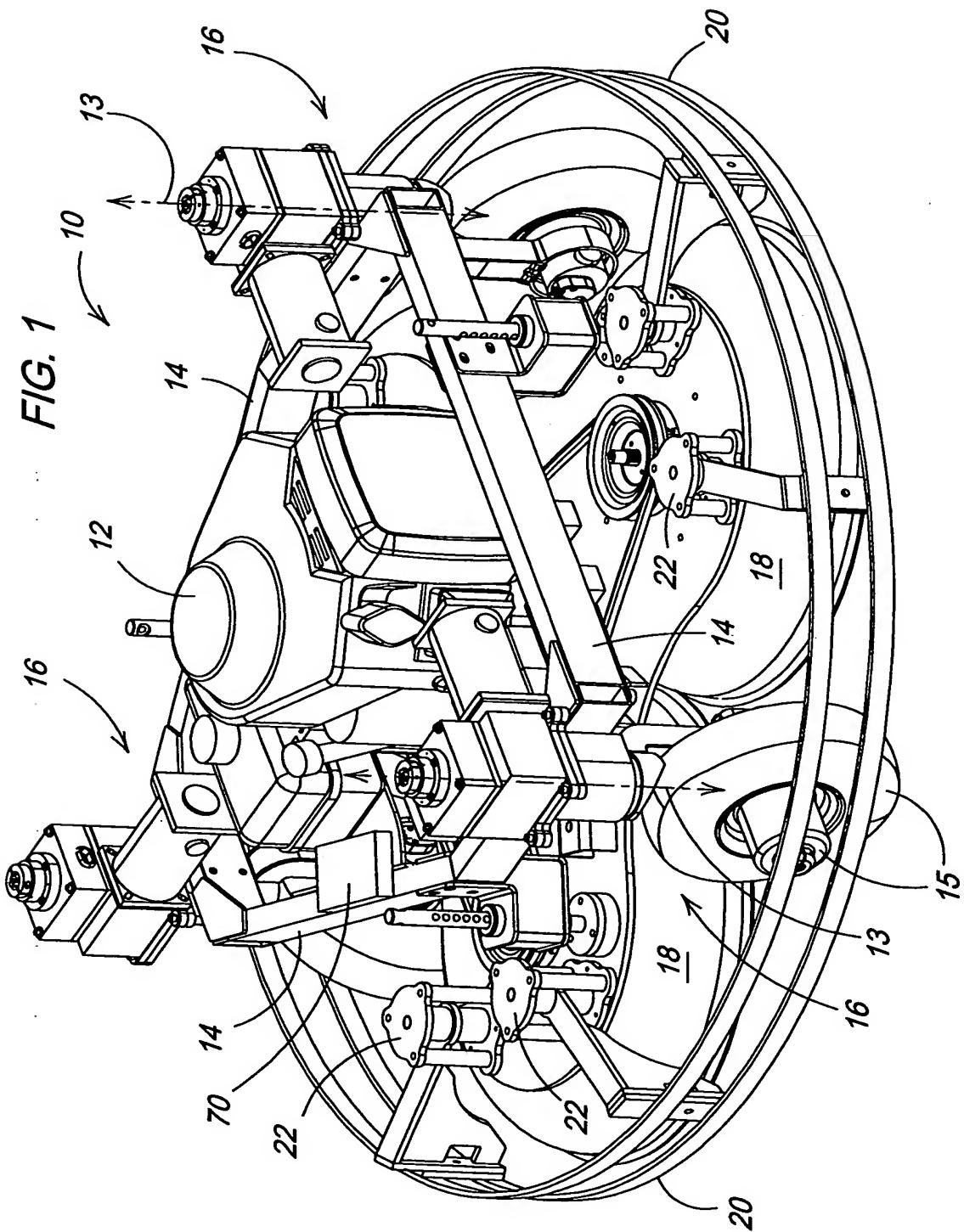


TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

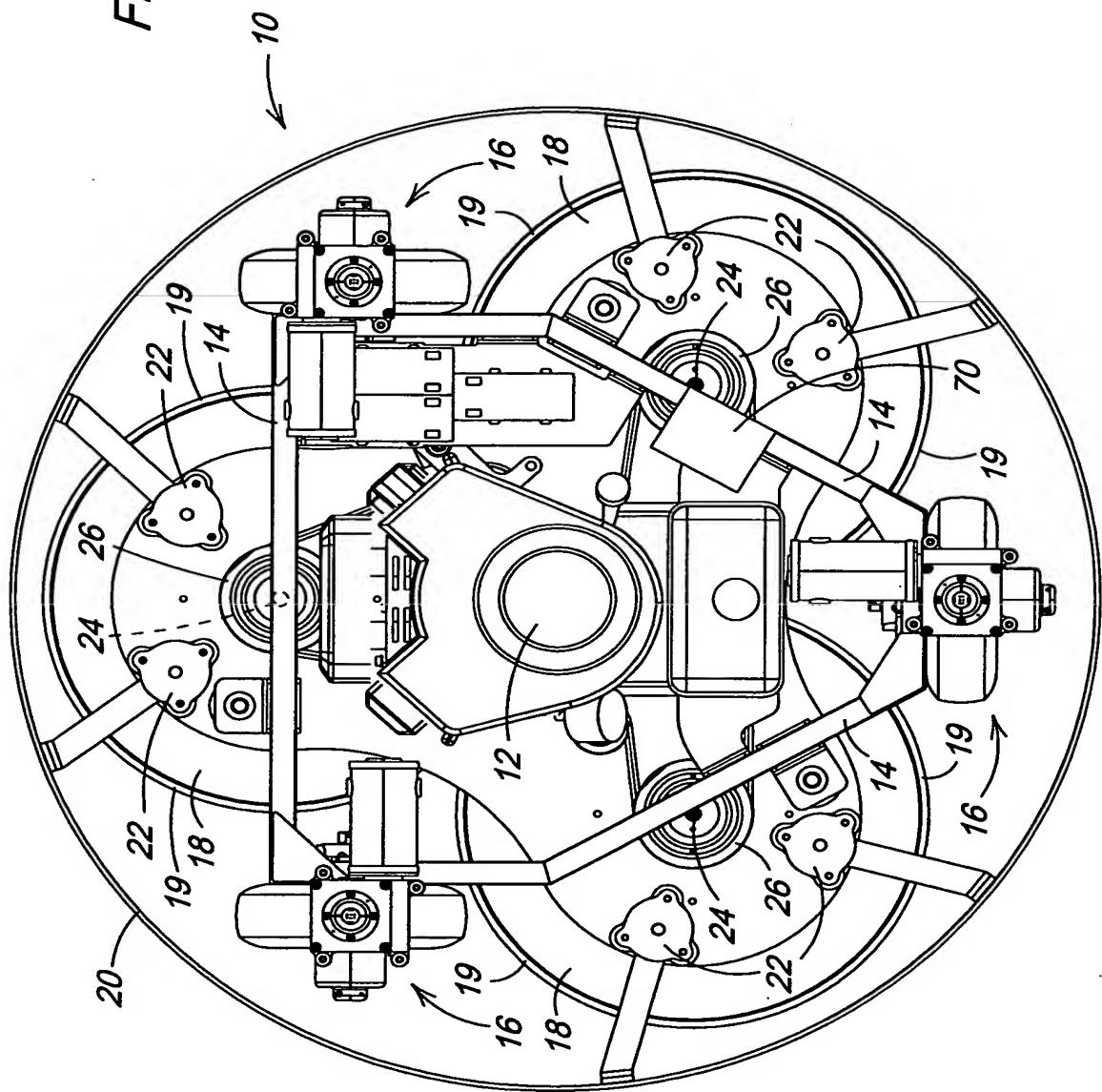
1/14



TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

2/14

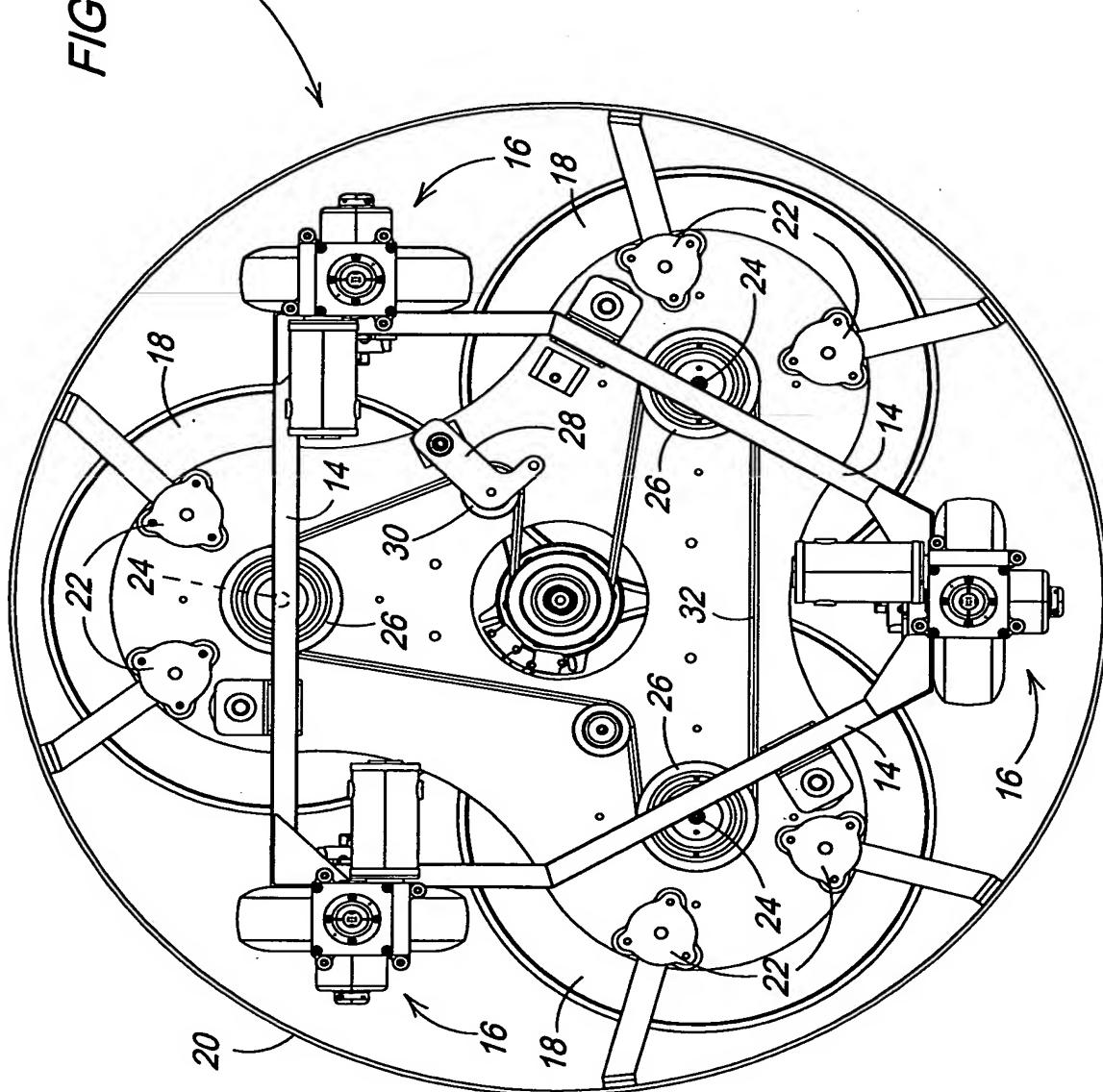
FIG. 2



TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

3/14

FIG. 3



TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb. mah

4/14

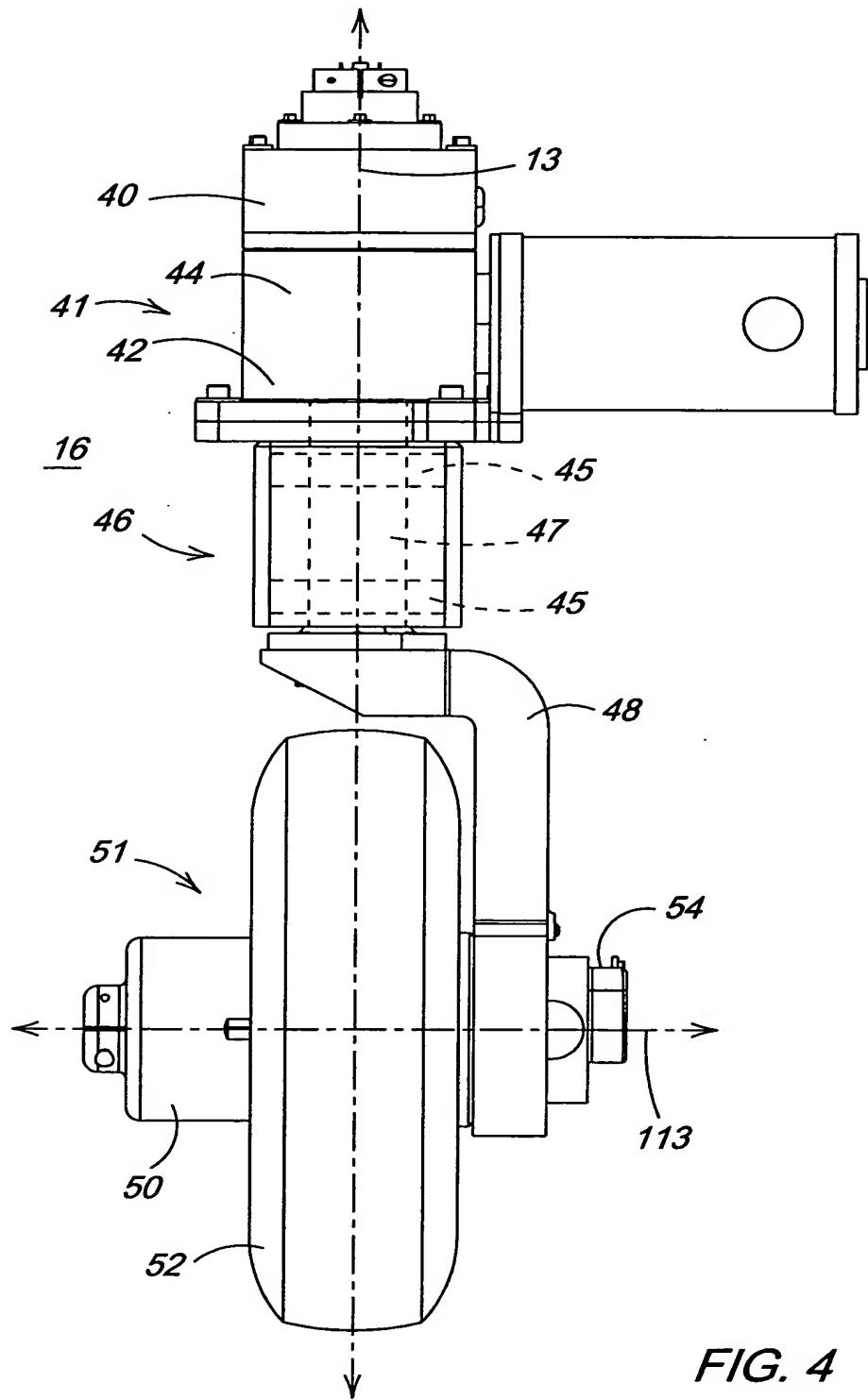
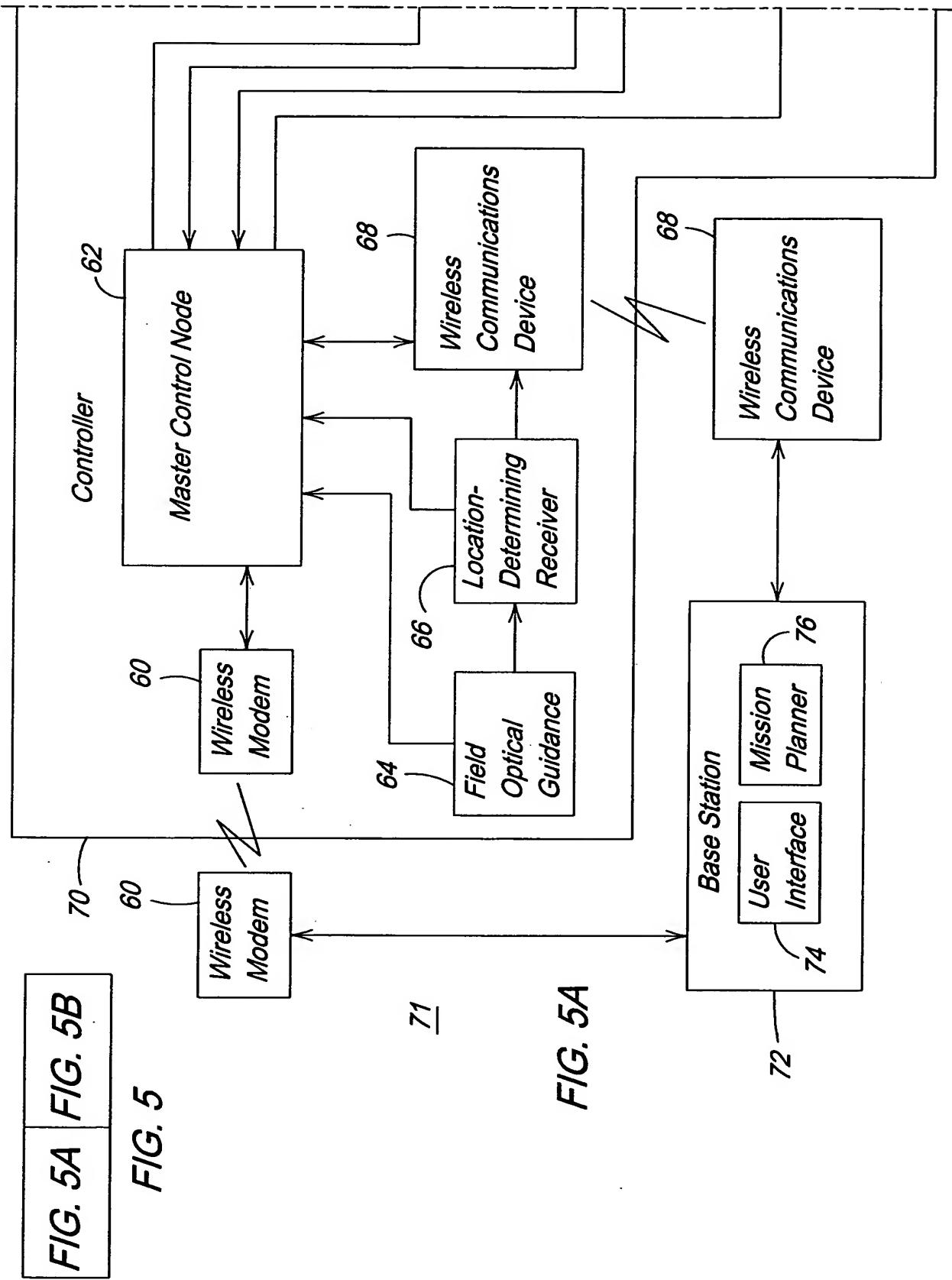


FIG. 4

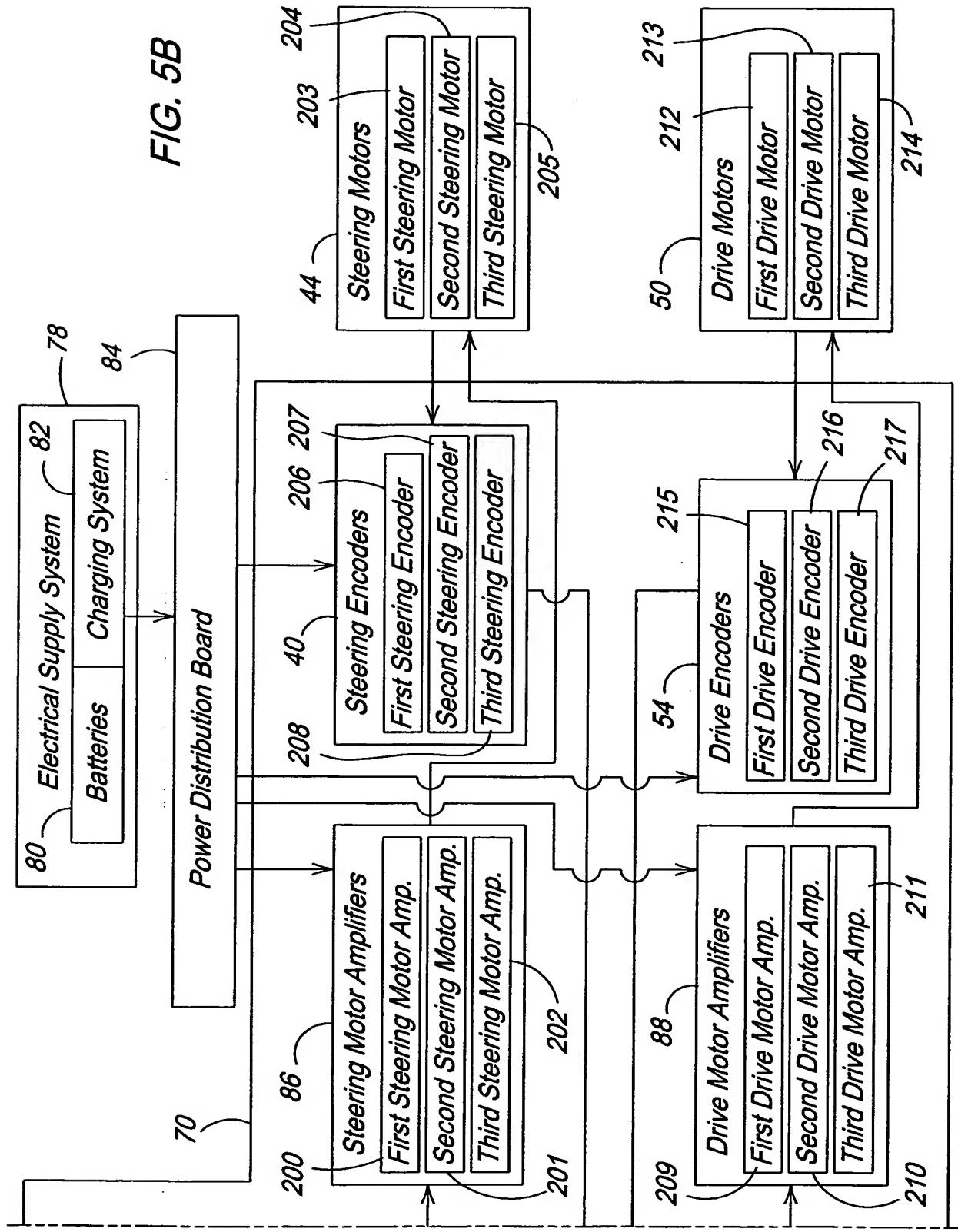
5/14



TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

6/14

FIG. 5B



7/14

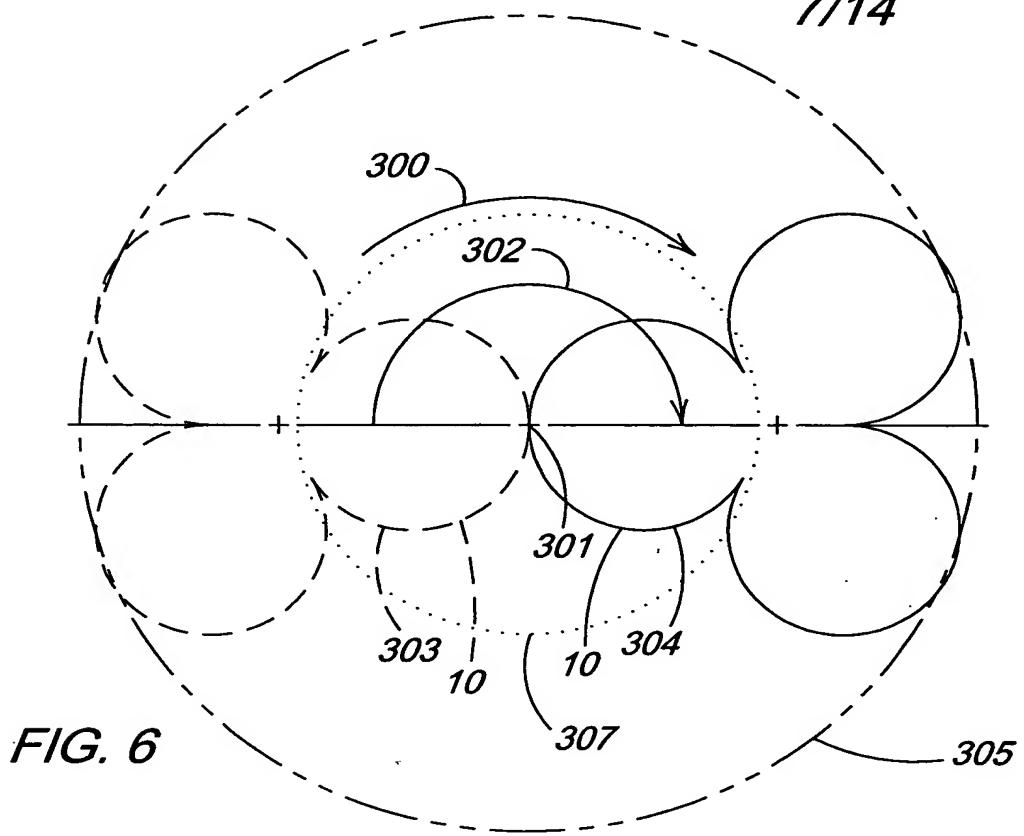


FIG. 6

S100
IDENTIFY A TARGET AREA FOR APPLICATION OF THE APPROXIMATELY ZERO RADIUS TRIM MANEUVER.

S101
POSITION A CRITICAL POINT (E.G., AN EDGE OF THE MOWING DECK OR AN OUTER EDGE OF A CUTTING BLADE) OF THE MOWER OVER A REFERENCE AXIS OF ROTATION.

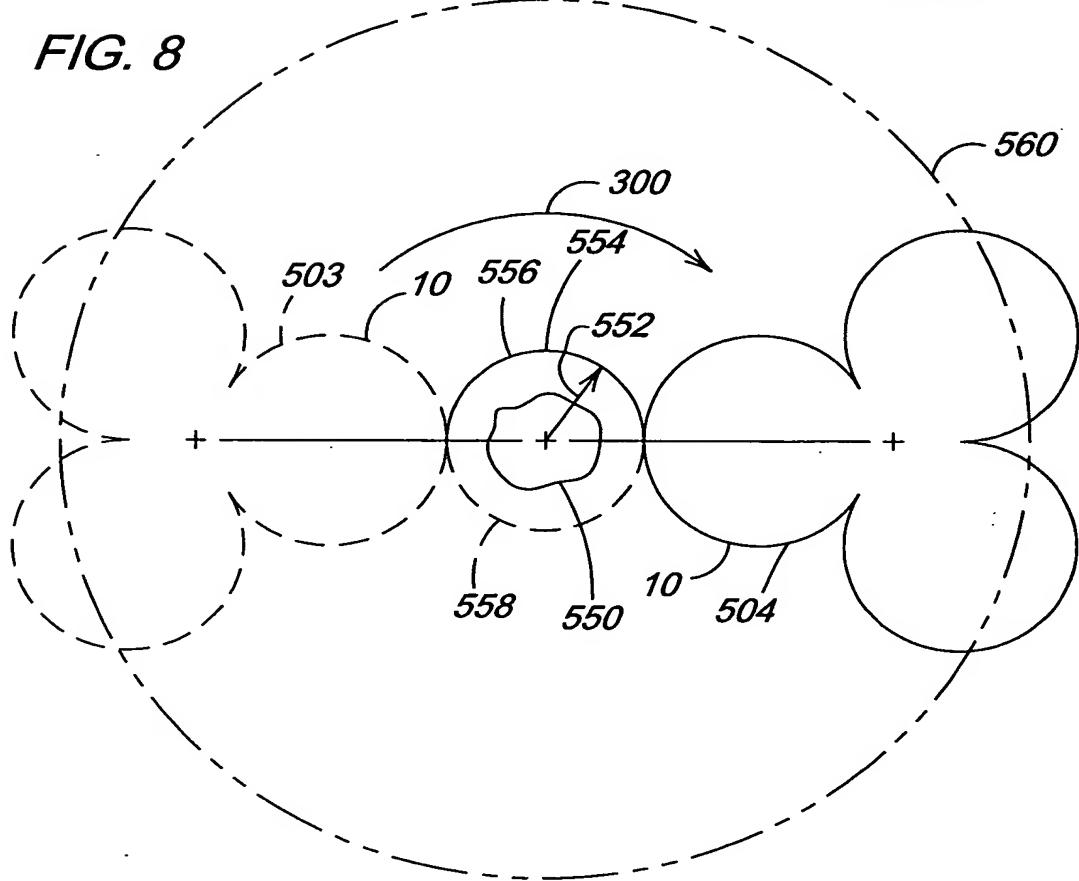
S102
ORIENT THE WHEELS GENERALLY TANGENTIALLY TO AN ARC ABOUT THE REFERENCE AXIS OF ROTATION.

S104
CONTROL THE APPLICATION OF ROTATIONAL MECHANICAL ENERGY TO ONE OR MORE OF THE WHEELS TO ROTATE THE MOWER ABOUT THE REFERENCE AXIS OF ROTATION BY A DESIRED REVOLUTIONAL AMOUNT (E.G., FRACTION AND/OR NUMBER OF REVOLUTIONS).

FIG. 7

8/14

FIG. 8



S500
IDENTIFY A TARGET AREA FOR APPLICATION OF THE NEAR ZERO RADIUS TRIM OR GREATER THAN ZERO RADIUS TRIM MANEUVER.

S501
POSITION A CRITICAL POINT OF THE MOWING DECK OR AN OUTER PERIPHERY OVER A REFERENCE ARC.

S502
ALIGN THE STEERED DIRECTION OF THE WHEELS TO BE GENERALLY TANGENTIAL TO RESPECTIVE ARCS THAT ARE GENERALLY CONCENTRIC WITH RESPECT TO THE REFERENCE ARC.

S504
CONTROL THE APPLICATION OF ROTATIONAL MECHANICAL ENERGY TO ONE OR MORE OF THE WHEELS TO ROTATE THE MOWER ABOUT THE OBJECT BY A DESIRED FRACTION AND/OR NUMBER OF REVOLUTIONS.

FIG. 9

TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

9/14

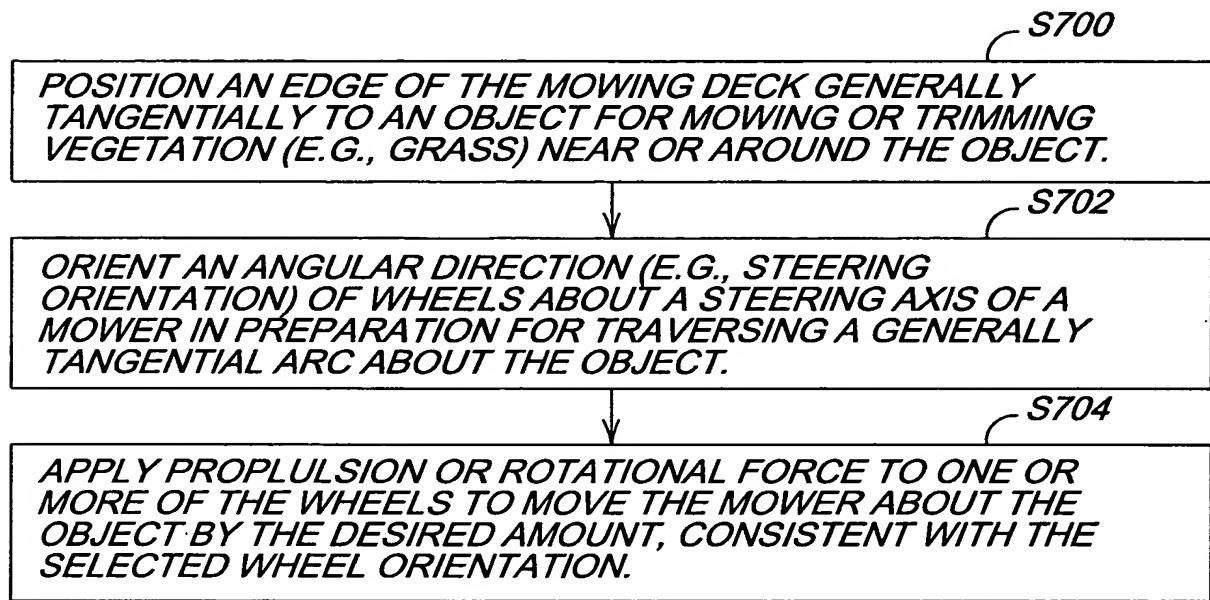
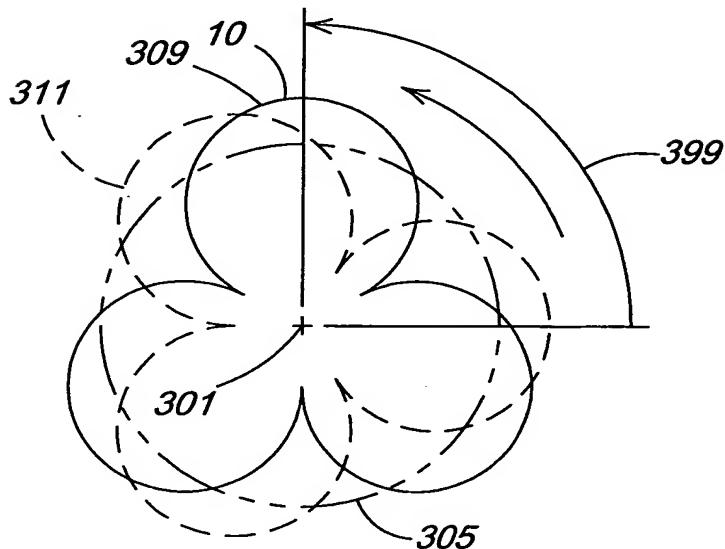


FIG. 10

10/14

FIG. 11



S108
DEFINE AN AXIS OF ROTATION AT A DESIRED POINT ALONG
A PATH SEGMENT OF THE MOWER.

S110
ORIENT THE WHEELS GENERALLY TANGENTIALLY TO A
CIRCULAR REGION ABOUT THE DESIRED AXIS OF ROTATION.

S112
APPLY ROTATIONAL MECHANIZED ENERGY TO ONE OR MORE
OF THE WHEELS TO ROTATE THE MOWER BY A DESIRED
ANGULAR AMOUNT (E.G., 90 DEGREES FOR A RIGHT ANGLE
TURN).

S114
STOP THE APPLICATION OF ROTATIONAL ENERGY UPON
COMPLETION OF ROTATION BY THE DESIRED ANGULAR
AMOUNT.

S116
REORIENT THE WHEELS TOWARD THE DIRECTION OF A
DESIRED PATH SEGMENT.

FIG. 12

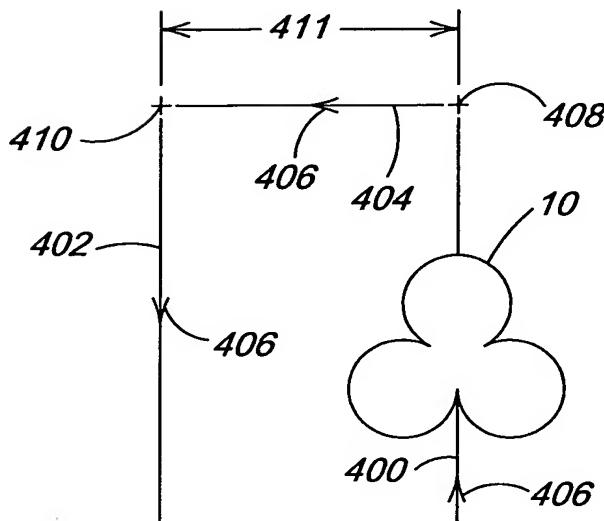


FIG. 13

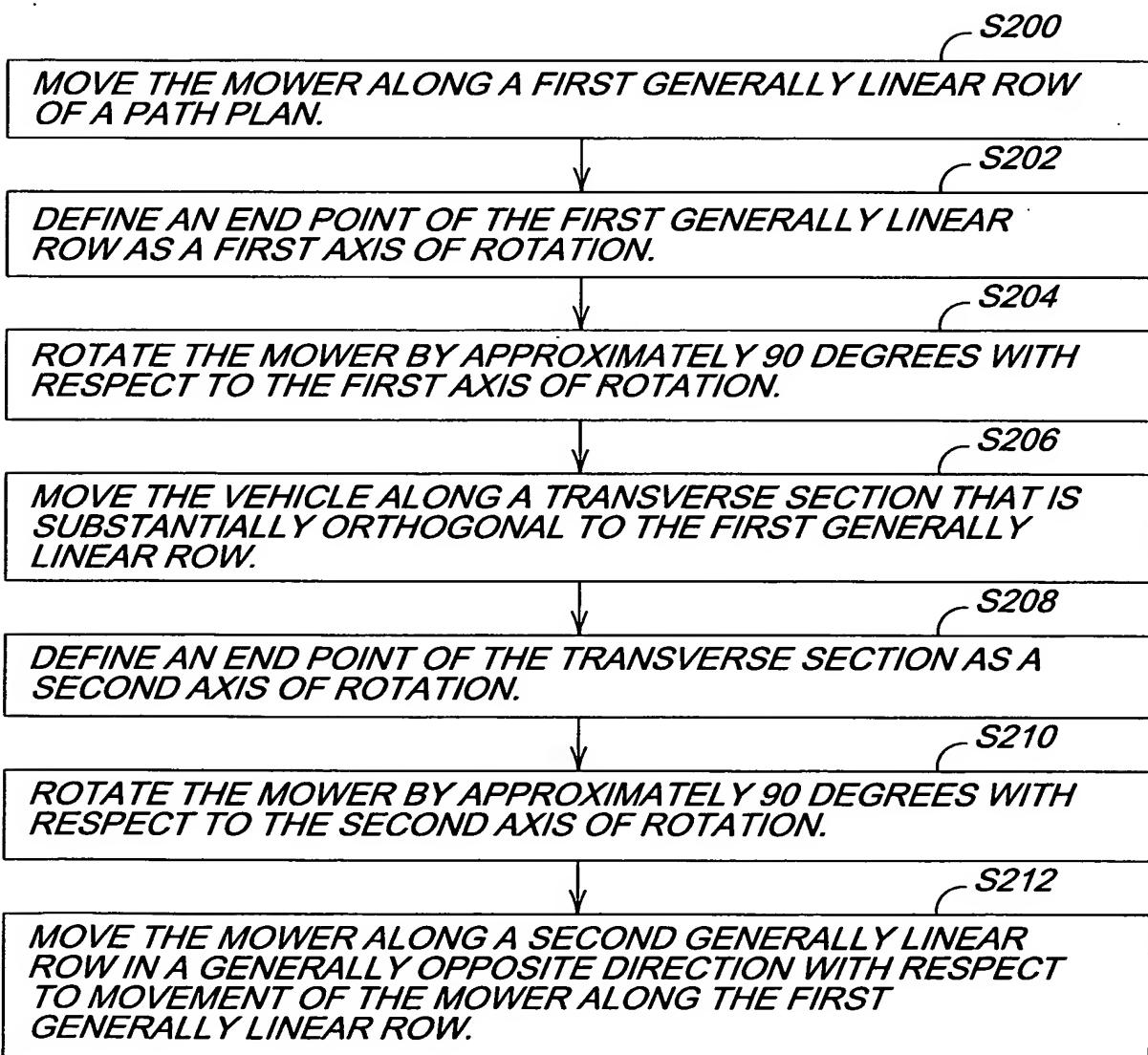
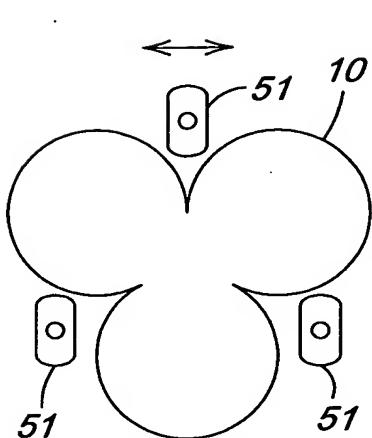


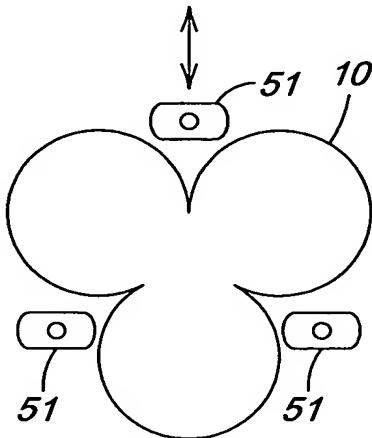
FIG. 14

TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

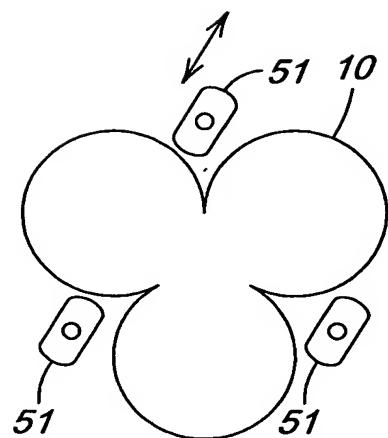
12/14



Linear Mode



Linear Mode

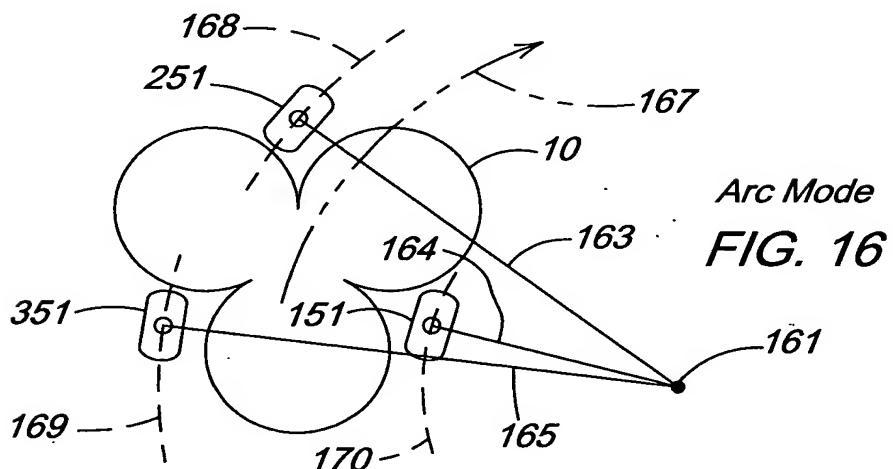


Linear Mode

FIG. 15A

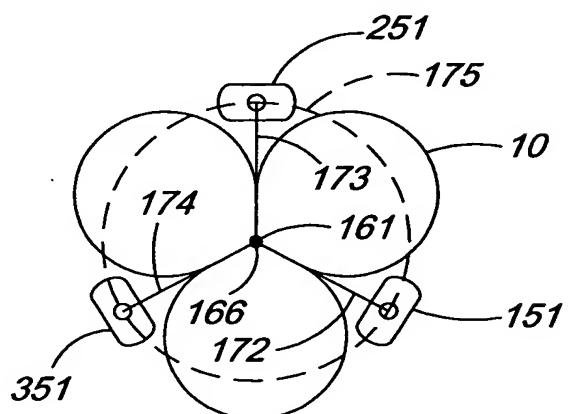
FIG. 15B

FIG. 15C



Arc Mode

FIG. 16

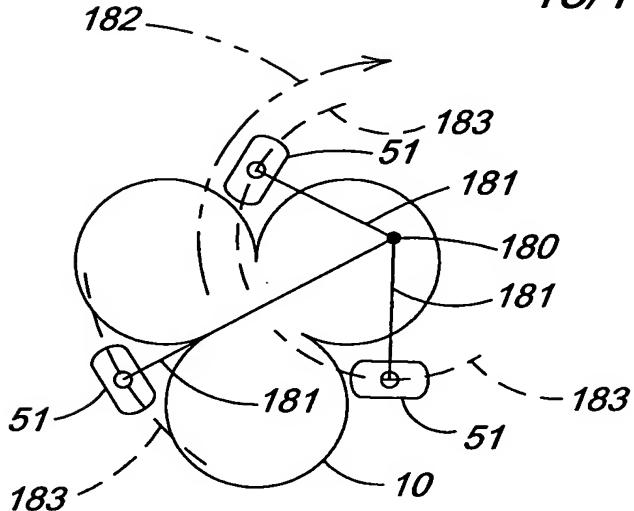


Rotating Mode

FIG. 17

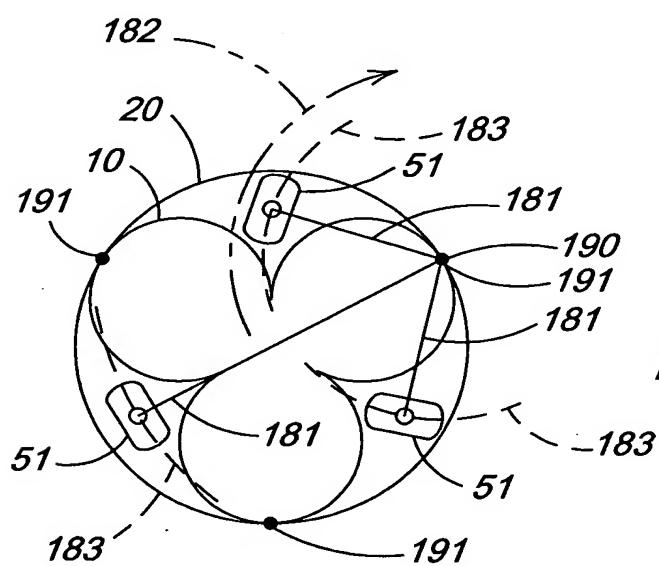
TITLE: SELF-PROPELLED MOWER HAVING
ENHANCED MANEUVERABILITY
INVENTOR: Kenneth Edward Hunt
DOCKET #: 16359 D2 /deb, mah

13/14



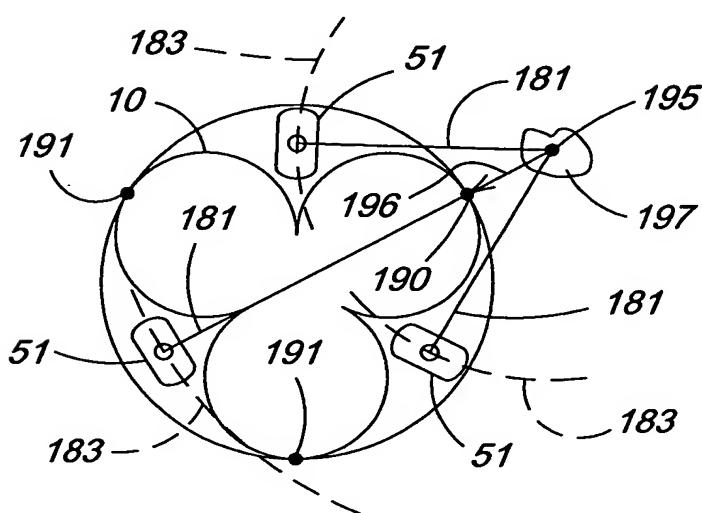
Interior Arc Mode

FIG. 18



Trim Mode (Zero Radius)

FIG. 19



*Trim Mode
(Greater Than Zero Radius)*

FIG. 20

14/14

FIG. 21

Path Plan Data

1st Path Segment

Starting Coordinate (X_1, Y_1)
Destination Coordinate (X_2, Y_2)
Mode (E.g., Linear, Arc, Rotating or Combination) (M_1)
Reference Point Coordinate (Where Applicable) (R_1)

2nd Path Segment

Starting Coordinate (X_2, Y_2)
Destination Coordinate (X_3, Y_3)
Mode (M_2)
Reference Point (R_2)
⋮

Nth Path Segment

Starting Coordinate (X_N, Y_N)
Destination Coordinate (X_{N+1}, Y_{N+1})
Mode (M_N)
Reference Point (R_N)

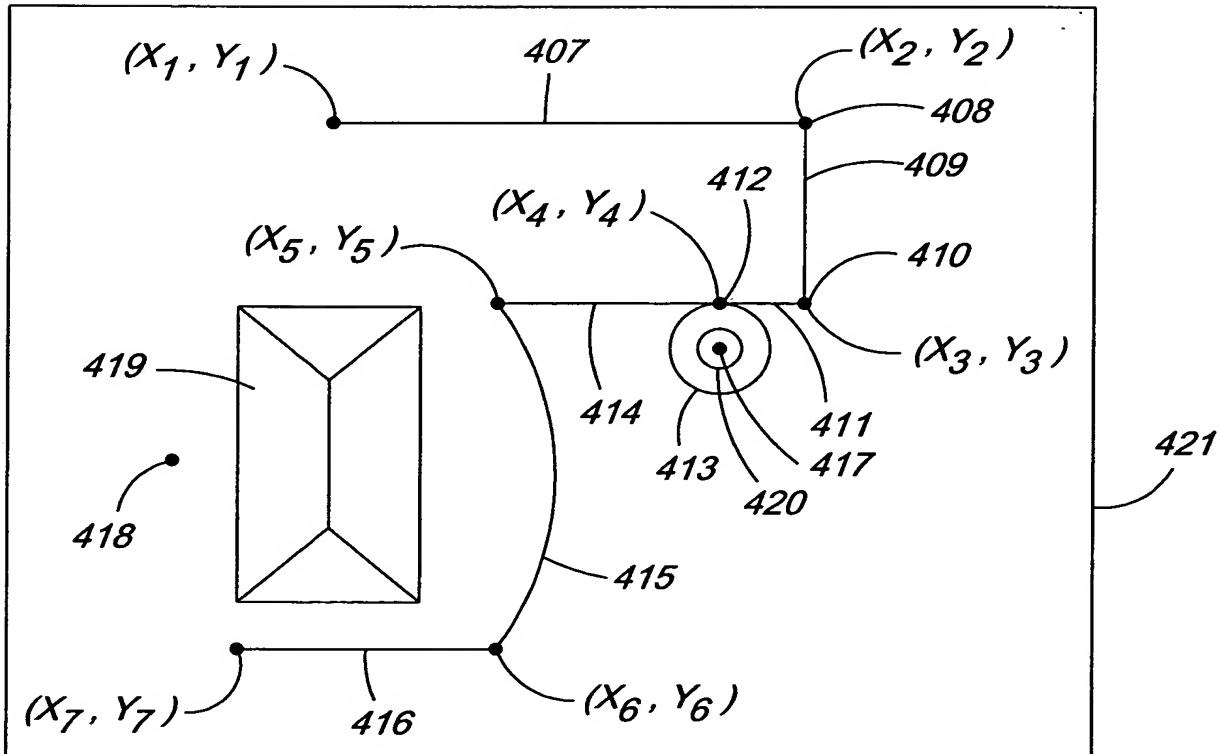


FIG. 22